

# Receiving Report

Date: 15-07-10

Batch No: 132717

Supplier: Core

Dart P/O: 29084

Packing Slip: Yes  No   
 Invoice: Yes  No   
 Receipt: Cash  Cr   
 New Supplier Yes  No

Release Note Attached: Yes  No  N/A   
 Waybill Attached: Yes  No   
 Shipment Complete: Yes  No  N/A   
 QC18 Inspection   
 Work Order

## Discrepancies

Part Number	Description	Quantity Ordered	Quantity Rec'd	Quantity Short	Quantity Inspected	Quantity Rejected	Comment / NCR Number

Initials of Receiver

QC12

Production/Admin:

Date

Received/Costing

Initial

Location



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO29084**

Purchase Order Date 7/9/2015  
PO Print Date 7/9/2015

Page Number 1 of 2

Order From :  
C.O.R.E. AVIATION SERVICES  
16305 E. TWIN ACRES DRIVE  
GILBERT, AZ 85297  
US

VU-COR001

Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name	Mr. Kaizer Husein	Buyer	Chantal Lavoie
Vendor Phone	480 497 6136	Customer POID	
Ship To Contact		Customer Tax #	10127-2607
Ship To Phone		Terms	Net 10
Ship Via:	FedEx Overnight collect	Currency	USD
Ship Acct:		FOB	FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
Line Comments			Promise Date				
Delivery Comments							
1	AN4C47A	Bolt	7/13/2015 Yes 7/13/2015	30.00 Each		\$16.50	\$495.00
						Line Total:	\$495.00
2	AN3C40A	Bolt	7/13/2015 Yes 7/13/2015	20.00 Each		\$17.50	\$350.00
						Line Total:	\$350.00

PO Instructions: Fedex Acct# 151793240

Note:

# C.O.R.E. Aviation Services, Inc.

16305 E. TWIN ACRES DRIVE  
GILBERT, AZ 85298  
USA  
Ph: 480-497-6136 Fax: 480-497-3568  
EMail: sales@coreaviation.com

## Packing List

Ship Doc : CA150709-1  
Printed : 07/09/2015  
No. Items : 2  
Page : 1 of 1

Bill To: Dart Aerospace Ltd. 1270 Aberdeen St. Hawkesbury, ON K6A 1K7 Canada		Ship To: Dart Aerospace Ltd. 1270 Aberdeen St. Hawkesbury, ON K6A 1K7 Canada							
Sales Order : 29084	AWB : 774018964318					Resale : Not On File			
Order Date : 07/09/2015	Customer# : DALD					Buyer :			
Ship Date : 07/09/2015	Terms : N 10					Contact : 613-632-9577			
Ship Via : FEDEX	Sales Person: Jonathan Kohl					Weight :			
Ship Account: 151793240	FOB : GILBERT, AZ					No. Boxes :			
Dimensions :									
Item	Part Number/Description	CD	Location	UM	Ord	B/O	Shipped	Cust. PO#	
1	AN4C47A NSN:5306-00-543-5079	BOLT	NE	HC202	EA	30	0	30	29084
2	AN3C40A	BOLT	NE	HC202	EA	20	0	20	29084

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### TERMS AND CONDITIONS OF SALE

MATERIALS ON THIS ORDER CONFORM TO SPECIFICATIONS AS LISTED ON YOUR PO/RO.

MATERIAL IS SUBJECT TO YOUR INSPECTION

OUR TERMS ARE AS PER OUR MUTUAL LETTERS OF AGREEMENT.

OVERDUE INVOICES WILL BE SUBJECT TO 1.5% INTEREST ON OVERDUE AMOUNTS.

NO RETURN OR REFUNDS AFTER 10 DAYS FROM INVOICE DATE.

DAMAGE OR SHORTAGE CLAIMS MUST BE MADE WITHIN 10 DAYS OF INVOICE DATE.

NO RETURNS ALLOWED WITHOUT PRIOR APPROVAL. RETURNED GOODS COULD BE

SUBJECT TO A RESTOCK CHARGE.

#####

COUNTRY OF ORIGIN OF GOODS : USA

TYPE OF GOODS : AIRCRAFT PARTS

HARMONIZED CODE : 8803-20-0050

#####

# C.O.R.E. Aviation Services, Inc.

16305 E. TWIN ACRES DRIVE

GILBERT, AZ 85298

USA

Ph: 480-497-6136 Fax: 480-497-3568

EMail: sales@coreaviation.com

DUPLICATE

## Invoice

Invoice : CA150709-1

Date : 07/09/2015

No. Items : 2

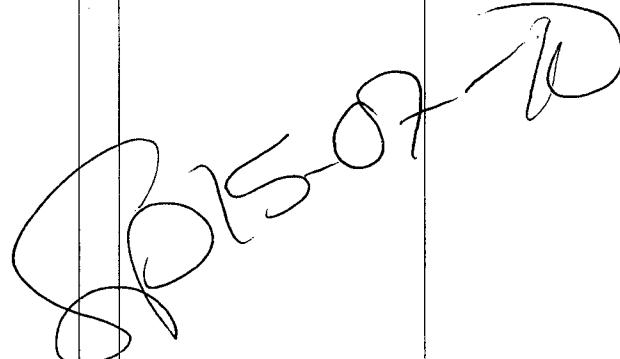
Page : 1 of 1

To:  
Dart Aerospace Ltd.  
1270 Aberdeen St.  
Hawkesbury, ON K6A 1K7  
Canada

Ship To:  
Dart Aerospace Ltd.  
1270 Aberdeen St.  
Hawkesbury, ON K6A 1K7  
Canada

Sales Order : 29084	AWB : 774018964318	Resale : Not On File
Your Order# : 29084	Customer# : DALD	Buyer :
Order Date : 07/09/2015	Terms : N 10	Contact : 613-632-9577
Ship Date : 07/09/2015	Sales Person: Jonathan Kohl	Weight :
Ship Via : FEDEX	FOB : GILBERT, AZ	No. Boxes :
		Dimensions :

Item	Part Number/Description	Shipped	BackOrd	CD	Unit Price	Total Amt
1	AN4C47A NSN: 5306-00-543-5079	30	0	NE	\$16.50 EA	\$495.00
2	AN3C40A	20	0	NE	\$17.50 EA	\$350.00


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SUBJECT TO A RESTOCK CHARGE.

#####

COUNTRY OF ORIGIN OF GOODS : USA

TYPE OF GOODS : AIRCRAFT PARTS

HARMONIZED CODE : 8803-20-0050

#####

Sub Total :	\$845.00
Tax Total :	
S + H :	\$0.00
Balance :	\$845.00

# CERTIFICATE OF CONFORMANCE

## C.O.R.E. Aviation Services, Inc.

16305 E. TWIN ACRES DRIVE, GILBERT, AZ 85298, USA  
Phone: 480-497-6136 Fax: 480-497-3568 FAA Sta. #: Web:

Invoice : CA150709-1  
Date : 07/09/2015  
PO : 29084  
Issued By : Jonathan Kohl  
Page : 1 of 1

THIS IS TO CERTIFY THAT ALL GOODS ON C.O.R.E. INVOICE WERE SHIPPED IN ACCORDANCE WITH THE PART SPECIFICATIONS ON CUSTOMERS PO & TO THE BEST OF OUR KNOWLEDGE AND BELIEF, MEET THOSE STANDARDS.

ITEM(S) WERE DETERMINED TO BE IN STATED CONDITION BY VISUAL CONDITION AND OR IN ACCORDANCE WITH RECEIVING RECORDS.

ALL DETAILED RECORDS ARE KEPT ON FILE AT C.O.R.E. AVIATION SERVICES FOR ANY FUTURE CUSTOMER INSPECTION.

Item	Part Number/Description	Shipped	CD
1	AN4C47A Lot:15544	BOLT	30
2	AN3C40A Lot:9961608	BOLT	20



KAIZER HUSEIN



Contact: Brad Ramsey  
Sierra Pacific Supply Company  
P.O. Box 4848  
1801 West El Seg  
COMPTON, CA 90224-4848

Element Materials Technology  
15062 Bolsa Chica  
Huntington Beach, CA  
92649-1023 USA  
P 714 892 1961  
F 714 892 8159  
T 888 786 7555  
info.hb@element.com  
element.com

#### TEST CERTIFICATE — EAR-CONTROLLED DATA

Date: 12/21/2012  
Purchase Order Number: SPM1461F  
Work Order Number SIE011-12-18-07612-1

Part No.:	AN3C40A REV. 2
Size:	.190-32 X 4.062 HEX CAP
Lot No.:	9961608
Material:	431 SS
Heat No.:	G18835
Specification:	AN3C40A REV. 2, NASM 6812 REV. 2

#### AXIAL TENSILE (ROOM TEMPERATURE)

Requirement:	2,210 LBS MIN.	
Test Method:	MIL-STD-1312-8A / NASM 1312-8(2)	
Sample No.	Result (lbs.)	Location of Fracture
1	3,417	THREAD
2	3,429	THREAD
3	3,417	THREAD

#### DOUBLE SHEAR

Requirement:	4,250 LBS MIN.	
Test Method:	MIL-STD-1312-13A/NASM 1312-13(1)	
Sample No.	Diameter	Results (lbs.)
1	.189	4,454
2	.189	4,401
3	.189	4,473

#### MATERIAL CONFORMS TO SPECIFICATION

This document contains technical data whose export and re-export/ retransfer is subject to control by the U.S. Department of Commerce under the Export Administration Act and the Export Administration Regulations. The Department of Commerce's prior written approval may be required for the export or re-export/retransfer of such technical data to any foreign person, foreign entity or foreign organization whether in the United States or abroad.



Respectfully submitted

*Megan E. Wolf*  
Megan E. Wolf  
Quality Administrator

15062 Bolsa Chica, Huntington Beach, CA 92649  
(714) 892-1961 ph • (714) 892-8159 fax [www.element.com](http://www.element.com)

The information contained in this certification represents only the material submitted and is certified only for the quantities tested. Reproduction except in full is reserved pending written approval. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punishable as a felony under federal law. All testing was performed in a mercury free environment. All testing performed in accordance with the latest edition of the applicable ASTM, or other Federal Test Method in effect at the time of test.



"Sample (s): Customer Supplied"

## TEST REPORT



# ATLAS TESTING LABORATORIES, INC.

9820 6th Street, Rancho Cucamonga, CA 91730

909-373-4130

FAX 909-373-4132

DG

PO# SPM1461B

DATE: 12/05/12  
ATL# 247403

CLIENT: SIERRA PACIFIC SUPPLY CO.  
ATTN: BRAD  
1801 W. EL SEGUNDO BLVD.  
COMPTON, CA 90222-1096

PN# AN3C40A REV. 2  
LOT# 9961608  
QTY: 3 PCS.

SIZE: .190-32 X 4.062  
HEAT# G18835  
HEX CAP

ALLOY: 431 S/S

SPEC: CUST REQ.

### HARDNESS DETERMINATION: (METHOD: ASTM-E18/11)

ACTUAL: #1 32 HRC  
ACTUAL: #2 30 HRC  
ACTUAL: #3 32 HRC

MIN REQ.: 26 HRC  
MAX. REQ.: 32 HRC

Note: Results are average of 3 readings.

Remarks: Conforms to customer requirements.

Respectfully Submitted:

*Angie Rajas*  
Angie Rajas, Quality Assurance

Date:

*12/05/12*

Page 1 of 1

ATLAS TESTING SUBMITS THIS REPORT AS THE CONFIDENTIAL PROPERTY OF OUR CLIENT.  
REPRODUCTION IS AUTHORIZED, BUT ONLY IF IN FULL. THERECORDING OF FALSE, FICTITIOUS OR  
FRAUDULENT INFORMATION TO THIS REPORT MAY BE PUNISHABLE UNDER FEDERAL LAW.





## PROCESS CONTROL LABORATORY

83830

2520-NO. ONTARIO ST., Building D BURBANK, CALIFORNIA 91504

(818) 840-8056

FAX (818) 840-8753

**TERMS: 1% within 10 days. Note 30 days. Net and Past Due thereafter subject to a service of 1.5% per month (18.0% per annum) for balances past due 30 days and over. Terms do not apply to C.O.D.**

**SIERRA PACIFIC SUPPLY**  
**P.O. BOX 4848**  
**COMPTON, CA 90224**

EX-APPENDIX

P.C.L. LIABILITY SHOULD BE LIMITED TO THE COST OF DIRECT LABOR AND MATERIAL DAMAGE OR THREE TIMES OUR PROCESSING CHARGES  
WHATEVER IS LESS.

ON MATERIAL, OR WHICH IS LESS.  
THE PURCHASER AGREES THAT IN THE EVENT HE FAILS TO PAY HIS ACCOUNT AND THE MATTER IS REFERRED TO AN ATTORNEY TO ENFORCE  
THE SAME, HE WILL, IN ADDITION TO THE SUMS DUE, PAY A REASONABLE ATTORNEY'S FEES AND ANY COURT COST OF ENFORCEMENT.

**TOTAL**

WE HEREBY CERTIFY THE ABOVE LISTED PARTS ARE  
PROCESSED IN ACCORDANCE WITH APPLICABLE  
SPECIFICATION TEST REPORTS ON FILE.

Q9-P-35

SPEC. NO. \_\_\_\_\_

TYPE 1 CLASS 1

BY John C. Verdoorn

WE HEREBY CERTIFY THE ABOVE LISTED PARTS ARE  
PROCESSED IN ACCORDANCE WITH

SPEC. NO. \_\_\_\_\_

TYPE \_\_\_\_\_ CLASS \_\_\_\_\_

BY \_\_\_\_\_

WE HEREBY CERTIFY THE ABOVE LISTED PARTS ARE  
PROCESSED IN ACCORDANCE WITH APPLICABLE  
SPECIFICATION. TEST REPORTS ON FILE.

SPEC. NO. \_\_\_\_\_

NAME \_\_\_\_\_

BY \_\_\_\_\_

**ANY DISCREPANCY MUST BE REPORTED WITHIN 24 HOURS**

RECEIVED /

SUBJECT TO CONDITIONS OF LIABILITY ON PACKING SLIP



# Dunkirk Specialty Steel, LLC

A Universal Stainless Company  
P.O. Box 319  
830 Brigham Rd.  
Dunkirk, NY 14048

Quality System Registered to  
ISO9001 and AS9100

## Material Certification

MILL ORDER: 0045294  
PART NUMBER: 884200  
P.O. NUMBER: 47043-16

P.O. DATE: 4/5/2012 1

PAGE NUMBER: 1 of 1

PRINTED: 8/2/12 10:25

S FRY STEEL COMPANY  
O T P.O. BOX 4048  
L O  
D

SANTA FE SPRINGS, CA 90670

S FRY STEEL CO  
H T C/O C.N.I. FREIGHT TRANS  
I O 4201 WEST 36TH ST  
P

CHICAGO, IL 60623

Material Description: STAINLESS STEEL ROUND BAR 431 EAF+AOD ANNEALED CENTERLESS GROUND AMS 2303F, ASTM A484-11, MIL-S-18732D, AMS-S-18732B, AMS 5628F, McDonnell Douglas DMS-1565G (except sonic), Hi Shear #115J (Type II, chemistry only), Federal QQ-S-763C Am. 2 (431 cond. A, exc. hard. & impact), waive C1M, ASTM A276-10 (431).

Size: .2500 DIAM X 132.0000 MIN/ 156.0000 MAX RANDOM LENGTH

Heat Number	C	0.15	MN	0.60	SI	0.35	S	0.004	P	0.020
G18835	FML	W4	CR	16.12	W	<0.05	V	0.03	NI	2.19
			CO	<0.05	CU	0.15	SM	0.010	FB	CB
			TA		AL	<0.01	TI	<0.01	FE	B
			O		MG		CA		SE	ZR
			AG		BX		W	0.048	H	CQ

HARDNESS (AS SHIPPED): 250 BHN

TENSILE CAPABILITY: 1875F/1HR/QQ+1175F/3HR/AC  
T/S KSI 152.4 Y/S KSI 114.7 TEL 18.9

TENSILE CAPABILITY: 1875F/1HR/QQ + -100F/2HR/AC+550F/2HR/AC + 550F/2HR/AC  
T/S KSI 214.9 Y/S KSI 158.4 TEL 16.0 T/R/A 59.0

HARDENABILITY : Rc 49.0

MICRO TEST: ACCEPTABLE

MACRO ETCH TEST: ACCEPTABLE

GRAIN SIZE: 8

FERRITE: <4%

MAGNETIC PARTICLE F/S = 0/0

KNOWINGLY RECORDING FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 67.

SI 4200

MELT SOURCE: UNIVERSAL/DUNKIRK

CHEMICAL BALANCE IS Fe

MATERIAL MELTED IN THE USA BY UNIVERSAL STAINLESS & ALLOY PRODUCTS, BRIDGEVILLE, PA

MATERIAL MANUFACTURED IN THE USA

FRY STEEL CO. CERTIFIES THAT THIS IS  
A TRUE COPY OF THE ORIGINAL MILL TEST  
REPORT NOW ON FILE  
RECEIVED AND INSPECTED

4/6/09 2012

By John M. Berry  
John M. Berry, QA/Technician  
CHP SANDBHAI, QM MANAGER

/S/John M. Berry

/S/John M. Berry

Prepared by: John M. Berry, QA

John M. Berry, QA/Technician

Date

08/02/12

Excerpt and unaltered compliance with UFARS 252.225-2014 A17.1. Meltd-By-USAP in Bridgeville, PA, USA. Certification IAW DIN 50 049 / EN 10204 3.1. Material complies with EU directive 2003/46/EC (Annex 5). The test results shown are certified to be a correct statement of records that were derived from testing samples of the material. Results meet applicable specifications. No welding or heat treatment on the material supplied on this order. Material is free from mercury contamination. Material is of NAFTA origin. This material was produced under the Dunkirk Specialty Steel Quality Management System documented in QP Manual, Rev. 6 dated 1/6/2012, conforming to NCA-3800. Material testing was performed as applicable in accordance with ASTM A370, A694, E8, E10, E18, E28, F112, F-19, F381, F572, F1019, STP CHEM GDS, F1444, & AMS 2315. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal law.

14 RD

**BUTLER, INC.**  
1600 W. 166th STREET  
GARDENA, CA 90247

**PACKING LIST**

Customer No.: C.O.R.E

Bill To: **CORE AVIATION SERVICES, INC.**  
16305 E. TWIN ACRES DR.  
GILBERT, AZ 85298

Ship To: **CORE AVIATION SERVICES, INC.**  
16305 E. TWIN ACRES DR.  
GILBERT, AZ 85298

Date	Ship Via	F.O.B.	Terms			
11/13/12	UPS	Origin				
Purchase Order Number	Order Date	Sales Person	Our Order Number			
STK120605	06/05/12		15544			
Required	Quantity Shipped	B.O.	Item Number	Description	Unit Price	Amount
1000	500	500	AN4C47A	LOT 15544		

**BUTLER INC.**

© 1991 Butler Inc.

1600 W. 166th Street Gardena, CA 90247



PERRY JOHNSON  
REGISTRARS, INC.  
ISO 9001 REGISTERED

# BUTLER INC.

1600 W. 166th STREET  
GARDENA, CALIFORNIA 90247  
(310) 323-3114 / FAX (310) 324-0914



PERRY JOHNSON  
REGISTRARS, INC.  
ISO 9001 REGISTERED

CAGE # 59053

C.O.R.E. AVIATION SERVICES  
16305 E. TWIN ACRES DRIVE  
GILBERT, AZ 85298

## CERTIFICATE OF COMPLIANCE

BUYER ORDER NO.: STK120605      ITEM: 1

NSN #: NA      PART NUMBER: AN4C47A      REV: 2

DESCRIPTION: BOLT, HEX HEAD, .2500-28 x 4.906, 431, PASSIVATE

SPECIFICATIONS: NASM6812-3, ASTM A 493-09, AMS-H-6875B, AMS2700E

QUANTITY: 500      LOT #: 15544      HEAT #: G18835

BUTLER INC. HEREBY CERTIFIES THAT THIS LOT HAS BEEN PRODUCED, SAMPLED, INSPECTED, TESTED, MARKED AND PACKAGED IN ACCORDANCE WITH ALL CONTRACT, DRAWING AND SPECIFICATION REQUIREMENTS. FURTHERMORE, BUTLER INC. CERTIFIES THAT DOCUMENTED EVIDENCE OF COMPLIANCE WITH ALL CONTRACT, DRAWING AND SPECIFICATION REQUIREMENTS APPLICABLE TO THIS LOT IS ON FILE AT OUR PLANT IN THE FORM OF MECHANICAL, METALLURGICAL AND/OR CHEMICAL TEST REPORTS AND INSPECTION RECORDS, AND IS AVAILABLE FOR BUYERS REVIEW.

DATE OF EXECUTION: 11/14/12

SIGNATURE: Tod F. Polidori  
TOD F. POLIDORI

TITLE: Q.A. MANAGER

Order No: 3432235  
Time 10:13:08

**FRY STEEL COMPANY**  
Registered ISO 9001  
13325 MOLETTE ST.  
SANTA FE SPRINGS, CA 90670  
(562) 802-2721

B04163  
Cust. NO.: 22883  
P.O. NO.:

## CERTIFICATE OF COMPLIANCE

BUTLER INC \*\*\*  
1600 W 166TH ST  
\*\* MAIL OUT INVOICES \*\*  
GARDENA CA 90247-4704

ROOKE MFG  
3360 W HARVARD ST  
SANTA ANA CA 92704-3920

06/28/12

QTY	--DESCRIPTION--	--ITEM CODE--	--HEAT NUMBER--
	CG 431 ANN AMS 5628 GREEN/YELLOW		
26	BARS .510"RD 12'RL ONE HEAT LOT	4290	G18870
100	BARS 1/4"RD 12'RL ONE HEAT LOT USE HT# G18835	4200	G18835
59	BARS .265"RD 12'RL ONE HT LOT	4210	G18835

REVIEWED BY: *JB A5*  
DATE: *7-6-12*

### NOTICE

A COPY OF THE ORIGINAL MILL CERTIFICATION IS ATTACHED\*

CHEMICALS & PHYSICALS ARE REPORTED THAT WILL MEET THE SPECIFICATIONS SHOWN ON THE CERTIFICATE.  
EXCEPTIONS TO SPECIFICATIONS SHOULD BE SHOWN ON THE CERTIFICATION.

AUTOMATIC EXCEPTIONS TO THE SPECS LISTED ARE: LINE MARKING AND INSPECTION(I.E. MAG., SONIC, ETC.)

WE SUGGEST CONSULTING AN EXPERT ABOUT RELATED INSPECTION, PRIOR TO ALTERING THE MATERIAL FROM THE AS SHIPPED/RECEIVED CONDITION. "DEFECT FREE" MATERIAL CAN NOT BE GUARANTEED WITHOUT PRIOR INSPECTION APPROPRIATE TO APPLICATION.

NO WELD REPAIR HAS BEEN PERFORMED AND THIS MATERIAL IS FREE FROM MERCURY AND RADIUM CONTAMINATION AT TIME OF SHIPMENT

The willful recording of false, fictitious or fraudulent statements on this document may result as a felony under federal statutes.  
\*WHEN APPLICABLE

MAT'L USED  
FOR LOT # 15544

*Chip Sandoval*  
CHIP SANDOVAL - Q.C. MANAGER



## Dunkirk Specialty Steel, LLC

A Universal Stainless Company  
P.O. Box 319  
830 Brigham Rd.  
Dunkirk, NY 14048

Quality System Registered to  
ISO9001 and AS9100

6/8835

### Material Certification

ILL ORDER: 0042386  
ART NUMBER: S#4200  
O. NUMBER: 46809-25

P.O. DATE: 11/22/2011

PAGE NUMBER: 1 of 1

PRINTED: 4/20/12 07:26

S FRY STEEL COMPANY  
O T P O. BOX 4048  
L O  
D  
SANTA FE SPRINGS, CA 90670

S FRY STEEL CO  
H T C/O C.M.I. FREIGHT TRANS  
I O 4201 WEST 36TH ST  
P  
CHICAGO, IL 60623

Material Description: STAINLESS STEEL ROUND BAR 431 EAF+AOD ANNEALED CENTERLESS GROUND AMS 2303F, ASTM A486-10, MIL-S-18732D, AMS-S-18732B, AMS 5628F, McDonnell Douglas DMS-1565G (except sonic), Hi Shear #115J (Type II, chemistry only), Federal QQ-S-763C Am. 2 (431 cond. A, exc. hard. & impact), waive CLM, ASTM A276-10 (431).

Size: .2500 DIAM X 132.0000 MIN/ 156.0000 MAX RANDOM LENGTH

Heat Number	C	0.15	MN	0.60	SI	0.35	S	0.004	P	0.020
G18835	FNL	WT	CR	16.12	W	<0.05	V	0.03	NI	2.19
			CO	<0.05	CU	0.15	SN	0.010	PB	
			TA		AL	<0.01	TI	<0.01	FE	
			O		MG		CA		SE	B
			AG		BI		N	0.048	H	ZR
										CQ

HARDNESS (AS SHIPPED): 247 BHN

TENSILE CAPABILITY: 1875F/1HR/OQ+1175F/3HR/AC  
T/S KSI Y/S KSI %EL  
152.4 114.7 18.9

TENSILE CAPABILITY: 1875F/1HR/OQ + -100F/2HR/AC+550F/2HR/AC + 550F/2HR/AC  
T/S KSI Y/S KSI %EL %R/A  
214.9 158.4 16.0 59.0

HARDENABILITY : Rc 49.0

MICRO TEST: ACCEPTABLE

MACRO ETCH TEST: ACCEPTABLE

GRAIN SIZE: 8

FERRITE: <4%

MAGNETIC PARTICLE F/S = 0/0

KNOWINGLY RECORDING FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS  
OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER  
FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

FRY STEEL CO. CERTIFIES THAT THIS IS  
A TRUE COPY OF THE ORIGINAL MILL TEST  
REPORT NOW ON FILE  
RECEIVED AND INSPECTED

S# 4200

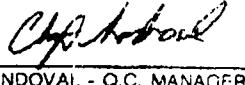
MELT SOURCE: UNIVERSAL/DUNKIRK

CHEMICAL BALANCE IS Fe

MATERIAL MELTED IN THE USA BY UNIVERSAL STAINLESS & ALLOY PRODUCTS, BRIDGEVILLE, PA

MATERIAL MANUFACTURED IN THE USA

MAY 03 2012

BY   
CHIP SANDOVAL - Q.C. MANAGER

MATL USED  
FOR LOT #

15544

/S/John M. Berry

John M. Berry, QA Technician

Date

Prepared by: John M. Berry, QA

04/20/12

Melted and manufactured in compliance with DFARS 252.225-7014 ALT 1. Melted by USAP in Bridgeville, PA., USA. Certification IAW DIN 50 D49 / EN 10204 3 : Material complies with EU directive 2002/95/EC (RoHS). The test results shown are to be a correct statement of records that were derived from testing samples of the material. Results meet applicable specifications. No welding was performed on the material supplied on this order. Material is free from mercury contamination. Material is of NAPTA origin. This material was produced under the Dunkirk Specialty Steel Quality Management System documented in QP Manual, Rev. 6 dated 1/6/2012, conforming to NCA-3800. Material testing was performed as applicable in accordance with ASTM A370, A604, E8, E10, E18, E23. Non-compliance with any of the above statements or this document may be punished as a felony under federal



**CONTINENTAL**  
HEAT TREATING, INC.  
BUTLER INC.

10643 S. NORWALK BL.  
SANTA FE SPRINGS  
CALIFORNIA 90670  
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800-622-6624  
FAX 562-944-1499  
www.continentalht.com

# CERTIFICATION

CERTIFICATION NO.  
616534

1600 W 166TH STREET  
GARDENA, CA 90247-4704

BUTLER INC

S 1600 W 166TH STREET  
GARDENA, CA 90247-4704

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O

CUSTOMER NUMBER 106470010	DATE RECEIVED 05/26/12	CUSTOMER P.O. NUMBER 225925	CUSTOMER SHIPPER
QUANTITY 1319	WEIGHT 98	PART NUMBER / DESCRIPTION AN4C47A REV.2 LOT# 15544 HEAT# G18835 END USER: C.O.R.E. H/T, 125-145 KSI PER P.O.	2 PANS
MATERIAL 434 B/S	HARDNESS 26-32 HRC	MAX-CROSS SECTION .250	CASE DEPTH
SPECIFICATIONS AMS 2759/5-D AMS-H-6875-B			CORE HARDNESS

PROCESS	SPEC TEMP	SPEC TIME	EQUIP.	ACT TEMP	TIME IN	TIME AT-HEAT	TIME OUT	ATMOS DEWPT	Q-MED & TEMP	DI
RACK VERT			RACK		.50	Y				10/1
PRECLEAN	140	:05	WASH	140	18:40	18:40	18:45	AIR	A/C	10/1
LOAD/COUPLE			WIRE		.08	Y				10/1
SET V P			ATMOS		.02	Y				10/1
AUSTENITIE	1875	:45	V1	1875	20:49	00:00	00:45	VAC	OIL	10/1
SUBZERO	-100	2:00	CB3	-100	02:55	03:10	05:10	NIT	A/W	10/1
TEMPER 15	1125	3:00	D12	1125	12:35	13:30	16:30	AIR	A/C	10/1
TEMPER 15	1125	3:00	D12	1125	00:25	01:20	04:20	AIR	A/C	10/1
GLASS BEAD			B6		1.00	Y				10/1

HARDNESS VALUES, AS REPORTED, ARE CONVERTED VALUES FROM READINGS  
TAKEN ON THE HRA SCALE USING ASTM E 140

REVIEWED BY: JB A5  
DATE: 10-16-12

HARDNESS: 28-30 HRC QTY TESTED: 15 QTY ACCT: 1319 QTY REJT: 0

INSPECTOR  
WALTER WILLIAMS JR.

DATE  
10/12/12

JIMMY MARTINEZ for DON LOWME

This Process Certification covers thermal processing and/or hardness testing only. No particular mechanical properties of any material should be assumed, or are implied, as a result of the thermal processing and/or hardness testing on this Process Certification. Material processed in a mercury-, radium- and asbestos-free environment. Unless otherwise specified above, for all AMS material specifications, no qualification or periodic testing has been performed. ALL FURNACES CERTIFIED TO MEET THE REQUIREMENTS OF AMS-H-6875, CURRENT REVISION. HARDNESS TESTING PERFORMED TO THE L REVISION OF ASTM E 384, ASTM E 10, ASTM E 110, ASTM E 18, ASTM E 140 AND ASTM A 370.



element

Element Materials Technology  
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Contact: Tod Polidori  
Butler, Inc.  
1600 West 166th Street  
GARDENA, CA 90247

**TEST CERTIFICATE — EAR-CONTROLLED DATA**

Date: 11/9/2012  
Purchase Order Number: 24122  
Work Order Number BUT004-11-07-02032-1

Part No.:	AN4C47A REV. 2
Lot No.:	15544
Heat No.:	G18835
Material:	431
Specification:	NASM6812-3

**FASTENER EVALUATION – STAINLESS STEEL**

Number of Pieces:	5
Etchant:	
Micro:	Vilella's
Temperature:	Ambient
Magnification:	100X/200X
Macro:	Vilella's
Temperature:	Ambient
Magnification:	20X
Grain Flow:	
Head:	Grain flow follows the contour of the head. (Acceptable)
Head to Shank Fillet:	Grain flow follows the contour of the head to shank fillet. (Acceptable)
Threads:	Grain flow follows the contour of the threads. (Acceptable)
Cracks:	The entire sample shows no evidence of cracks.
Discontinuities / Defects:	
Head:	No discontinuities / defects found.
Threads:	
Crest Laps:	0.003" (Within limits)
Flank Laps:	No discontinuities / defects found.
Root Laps:	No discontinuities / defects found.
Grain Growth:	
Grain Size:	None
ASTM 7.0	
Surface Condition on Head:	No surface contamination (IGA) found.
Surface Condition on Threads:	No surface contamination (IGA) found.
Microstructure:	Exhibits fine tempered martensite with no visible carbide precipitation in the grain boundaries.
Surface Hardening:	None except as created in cold working rolling of threads.

**MATERIAL CONFORMS TO SPECIFICATION**

This document contains technical data whose export and re-export/ retransfer is subject to control by the U.S. Department of Commerce under the Export Administration Act and the Export Administration Regulations. The Department of Commerce's prior written approval may be required for the export or re-export/retransfer of such technical data to any foreign person, foreign entity or foreign organization whether in the United States or abroad.

REVIEWED BY:

DATE: 11-9-12

Respectfully submitted

Kelly Nguyen  
Senior Quality Administrator

15062 Bolsa Chica, Huntington Beach, CA 92649  
(714) 892-1961 ph • (714) 892-8159 fax www.element.com

The information contained in this certification represents only the material submitted and is certified only for the quantities tested. Reproduction except in full is reserved pending written approval. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punishable as a felony under federal law. All testing was performed in a mercury free environment. All testing performed in accordance with the latest edition of the applicable ASTM, or other Federal Test Method in effect at the time of test.

# HADD-CO INSPECTION LAB

2420 Amsler Street, Torrance, CA 90505

Toll Free: (866) 339-8472 Phone: (310) 325-7620 Fax: (310) 325-9655

www.haddco.com Email: NDT@haddco.com

*sdcap*

NO 14527

Sold To:

BUTLER, INC  
1600 W 166TH ST  
GARDENA CA 90249

P O Number	24072
Job/Lot #	15544
Completion Date	11/6/12

## CERTIFICATION

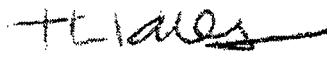
QUANTITY	PART NUMBER	DESCRIPTION
32	AN4C47A REV 2	MPI PER ASTM-E-1444M-11 NASM 6812-3 MATL. 431 NOT PLATED HEAT# G18835

NO REJECTS

REVIEWED BY:   
DATE: 11-9-12

This is to certify that 100% of the parts under subject purchase order have been inspected by Magnetic Partic inspection in accordance with all applicable and/or purchase order requirements.

Inspector:

  
LANES LEVER

NOTE: Altering of this certification renders it void.

# Allblack Company, LLC

13090 Park St.  
Santa Fe Springs, CA 90670  
Phone: (562) 946-2955  
Fax: (562) 946-6665

## ***Certificate of Conformance***

To: Butler Inc.

1600 West 166th Street  
Gardena, CA 90247  
United States

From: Allblack Company, LLC

13090 Park St.  
Santa Fe Springs, CA 90670

Packing List No: 325755  
Shipping Date: 11/09/12

Today's Date: 11/09/12  
PO Number: 24081

### MERCURY FREE PROCESS

Quantity				
<u>Shipped</u>	<u>Unit</u>	<u>Description</u>		<u>Job Number</u>
1	LOT	PASSIVATE PER AMS 2700E 1239PCS. OF P/N AN4C47A REV 2 LOT#15544 HT#G18835 MATL:431, 2PNS. 88#		440610
1	EA	FUEL FEE		440611

GENTLEMEN: This is to certify that the following articles have been processed and/or inspected as indicated above in accordance with military standards and specifications. If testing is not noted then no testing was performed. If a specification is not called out on the purchase order, then the process was performed per best commercial practice.

REVIEWED BY: JB  
DATE: 11-13-12

Inspector's Initials  
Allblack Company, LLC



**PERRY JOHNSON  
REGISTRARS, INC.**  
ISO 9001 REGISTERED

# BUTLER INC.

1600 W. 166th STREET  
GARDENA, CALIFORNIA 90247  
(310) 323-3114 / FAX (310) 324-0914



**PERRY JOHNSON  
REGISTRARS, INC.**  
ISO 9001 REGISTERED

## CERTIFIED TEST REPORT

CAGE CODE: 59053

PART NO: AN4C47A REV: 2  
LOT NO: 15544  
HEAT NO: G18835  
MAT'L: 431

PROCUREMENT SPEC: NASM6812 REV: 3  
LOT SIZE: 1237  
TEST DATE: 11/13/12  
CERTIFICATION NO: 4612

Test type:	Rockwell hardness	Test value:	N/A	Test method:	Butler procedure no:		
Results:							
1.	5.	9.	13.	17.	21.	25.	29..
2.	6.	10.	14.	18.	22.	26.	30.
3.	7.	11.	15.	19.	23.	27.	31.
4.	8.	12.	16.	20.	24.	28.	32.

Technician: \_\_\_\_\_ Stamp: \_\_\_\_\_

Test type:	Axial tensile	Test value:	4080 lbs min	Test method:	NASM1312-8	Butler procedure no:	BIQOP-5-8-4
Results:							
1.	6237 lbs	5.	6299 lbs	9.	13.	17.	21.
2.	6339 lbs	6.		10.	14.	18.	22.
3.	6394 lbs	7.		11.	15.	19.	23.
4.	6265 lbs	8.		12.	16.	20.	24.

Technician: Flavio Ron Stamp: (JB)  
Flavio Ron

Test type:	Double shear	Test value:	7360 lbs min	Test method:	NASM1312-13	Butler procedure no:	BIQOP-5-8-5
Results:							
1.	8849 lbs	5.	8885 lbs	9.	13.	17.	21.
2.	8947 lbs	6.		10.	14.	18.	22.
3.	9024 lbs	7.		11.	15.	19.	23.
4.	8944 lbs	8.		12.	16.	20.	24.

Technician: Flavio Ron Stamp: (JB)  
Flavio Ron

Test type:	Recess torque	Test value:	N/A	Test method:		Butler procedure no:
Deformation allowable:		Installation:	<th>Removal:</th> <td></td> <th>Sample size:</th>	Removal:		Sample size:
Results:						

Technician: \_\_\_\_\_ Stamp: \_\_\_\_\_

Test type:	Magnetic permeability	Test value:	N/A	Test method:		Butler procedure no:
Results:						

Technician: \_\_\_\_\_ Stamp: \_\_\_\_\_

Material, as tested, conforms to specification requirements. The information on this report represents only the material tested. This report shall not be reproduced except in full without the written approval of Butler Inc.